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Visual efficiency among teenaged athletes and non-athletes (Article)

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Abstract

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● **AIM:** To compare visual efficiency, specifically accommodation, vergence, and oculomotor functions among athletes and non-athletes. ● **METHODS:** A cross-sectional study on sports vision screening was used to evaluate the visual skills of 214 elementary students (107 athletes, 107 non-athletes), aged between 13 and 16y. The visual screening assessed visual parameters such as ocular motor alignment, accommodation, and vergence functions. ● **RESULTS:** Mean visual parameters were compared between age-group matched athletes (mean age 14.82±0.98y) and non-athletes (mean age 15.00±1.04y). The refractive errors of all participants were corrected to maximal attainable best corrected visual acuity of logMAR 0.0. Accommodation function assessment evaluated amplitude of accommodation and accommodation facility. Vergence functions measured the near point of convergence, vergence facility, and distance fusional vergence at break and recovery point. Ocular motor alignment was not statistically significant between both groups. Athletes had a statistically significant amplitude of accommodation for both the right eye (t=2.30, P=0.02) and the left eye (t=1.99, P=0.05). Conversely, non-athletes had better accommodation facility (t=-2.54, P=0.01) and near point of convergence (t=4.39, P<0.001) when compared to athletes. Vergence facility was found to be better among athletes (t=2.47, P=0.01). Nevertheless, non-athletes were significantly better for both distance negative and positive fusional vergence. ● **CONCLUSION:** Although the findings are still inconclusive as to whether athletes had superior visual skills as compared to non-athletes, it remains important to identify and elucidate the key visual skills needed by athletes in order for them to achieve higher performance in their sports. © 2017, International Journal of Ophthalmology (c/o Editorial Office). All rights reserved.

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Accommodation Athletes Non-athletes Phoria Sports Vergence

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